

2015 Cooperative Agricultural Pest Survey (CAPS) Program

Exotic Grape Pest Survey

If interested in participating,
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SILVER Y MOTH *Autographa gamma*



Originally from the United Kingdom, the Silver Y moth has steadily spread across the globe. Approximately 50% of the United States' climates would be suitable environments for the silver Y moth. The caterpillars feed on plants that grow low to the ground, most often potatoes, brassicas, lettuce, grapevine, and other common row crops. The Silver Y Moth is a migratory species and adults undertake seasonal migrations to areas where they are able to breed. In areas where they can overwinter, severe infestations occur sporadically.

Silver Y moth larvae cause crop damage. Female moths lay their eggs on the underside of leaves of the low-growing plants they target. When the larvae emerge, they feed on the plant's leaves, often consuming the plant entirely. Leaves may be skeletonized by young larval feeding, leaving plants with a brownish appearance. Older larvae eat from the edge of the leaf towards the midrib, consuming the leaves completely or at times leaving pieces of the midrib.

For more information: <http://pest.ceris.purdue.edu/pest.php?code=ITBCFCA>

HONEYDEW MOTH *Cryptoblabes gnidiella*



The Honeydew Moth is a voracious pest of the Mediterranean and Europe, and is especially known for damaging citrus crops in Israel. Adults are active at night and mate on the same night of emergence; females begin oviposition the following day. Most females will mate once, while males have been recorded mating multiple times. Adults are attracted to sweet material, including honeydew excreted by mealybugs and fruits like grapes and pomegranates that have been injured by other insects.

In grape berries, young larvae enter the fruit at the junction between the fruit and stalk. The larvae feed on the stems when the grapes are green, causing wilting and grape fall. When attacked close to harvesting, juice leakage can lead to rot by secondary pathogens that can reduce wine quality. Larvae produce dense webbing spun around the host stalk.

For more information: <https://caps.ceris.purdue.edu/dmm/2594>

LIGHT BROWN APPLE MOTH *Epiphyas postvittana*



The light brown apple moth is a voracious pest on pome and stone fruits and other horticultural crops. It has been recorded from more than 500 plant species in 121 families and 363 genera, although larvae prefer herbaceous plants over woody ones. Native to Australia, it traveled with apples to Hawaii in 1925 and California in 2005 or possibly earlier. It is not yet known in Maine.

LBAM feeds on the leaves, buds, flowers, and fruits of its hosts, but the majority of economic damage is caused by fruit injury. Larvae feed on the surface of fruits under webbed leaves, causing scarring as well as providing a site for rot or infection.

For more information: <http://pest.ceris.purdue.edu/pest.php?code=ITBUBPA>

EUROPEAN GRAPEVINE MOTH *Lobesia botrana*



The European grapevine moth was first reported in the United States from Napa County vineyards in October 2009. Native to Southern Italy, it is now found throughout Europe, North and West Africa, the Middle East, and eastern Russia. Recently, it has been reported from Japan and Chile (2008)

In May and June, first-generation larvae web and feed on the flower clusters. Second-generation larvae (July-August) feed on green berries. Young larvae penetrate the berry and hollow them out, leaving the skin and seeds. Third-generation larvae (August-September) cause the greatest damage by webbing and feeding inside berries and contaminating them with frass (excrement).

Grape and spurge laurel are preferred hosts, but it has also been reported on blackberry, blueberry, gooseberry, black and red currant, olive, cherry, prune, persimmon, pomegranate, carnation, and a number of other wild hosts. For more information: <http://pest.ceris.purdue.edu/pest.php?code=ITBUDUA>

EUROPEAN GRAPE BERRY MOTH *Eupoecilia ambiguella*



The European grape berry moth is a member of Tortricidae, a large family of moths that in North America includes approximately 1,200 species. Tortricids are often referred to as “leaf-rollers” because the larvae of some species feed inside a rolled leaf. The life cycle of *E. ambiguella* is similar to that of *Lobesia botrana* (European grapevine moth), except having one less generation. Over most of its range, adults are present in May and June for the first generation and again in August and September for the second generation.

Damage depends strongly on the developmental stage of the grapevine. Before and during flowering, the larvae first penetrate single flower buds and later on start to tie together several flower buds, building shelters in which they stay and continue their feeding activities. In this stage the tolerance level for infestation is relatively high and depends on the ability of the grape variety to compensate the damage. The most serious damage is not necessarily caused by the actual destruction of a few berries by the larva, but by the fungus *Botrytis cinerea* Persoon, which develops readily on the injuries caused by the larvae. For more information: <http://pest.ceris.purdue.edu/pest.php?code=ITBIAEA>

FALSE CODLING MOTH *Thaumatotibia leucotreta*



The false codling moth is native to Africa, and has a wide range of wild and cultivated host plants, including corn. It is a pest of economic importance to many crops throughout its distribution, which primarily includes Africa and parts of the Middle East. False codling moth has been intercepted at ports of entry in several Northern European countries (e.g. the Netherlands, Finland and the UK), as well as in several U.S. states (e.g. California, New York, Massachusetts, and Texas).

Damage to the host consists of premature ripening and fruit drop, which is caused by larval feeding and development. Adult moths are active at night and can be detected with pheromone traps. For more information: <http://pest.ceris.purdue.edu/pest.php?code=ITBUEUA>

SPOTTED WING DROSOPHILA *Drosophila suzukii*



A native of southeast Asia, the spotted wing drosophila (SWD) was first found in the continental U.S. in 2008 in California. It has since been detected in 28 states, including Maine.

SWD is known as a vinegar fly, but unlike most vinegar flies that infest overripe fruit, SWD attacks ripening fruit. California, Oregon, Florida and Michigan have reported significant crop losses to their small fruit industry, which includes strawberry, blueberry, raspberry and cherry. Other fruits at risk include apple, peach, plum, blackberry and possibly tomato. SWDs have a high reproductive rate, with the potential to complete at least 15 generations each year.

SWD can be identified by the single black spot on each wing margin of males, and the distinct serrated ovipositor of females, which allows this fly to attack ripening fruit. Within days of attack, fruit begins to collapse and rot. For more information: <http://pest.ceris.purdue.edu/pest.php?code=IOAPAUUA>

SPOTTED LANTERNFLY *Lycorma delicatula*



The Spotted Lanternfly is a planthopper from Asia that was first seen in the US in September of 2014. It has the potential to greatly impact the grape, fruit tree and logging industries; the spotted lanternfly attacks many hosts including grapes, apples, pines, stone fruits and more than 70 additional species. Since its discovery in Pennsylvania, the state announced a quarantine to restrict the movement of this pest and prevent its spread to other states.

In the spring, search for the nymphs on smaller plants and vines. Fruit trees and grapes can be especially susceptible to damage and mortality under larger populations. As the year progresses, the Spotted Lanternfly host choice will transition to trees. Trees can be afflicted with weeping wounds of sap on the trunks. Heavy populations can cause honey dew secretions to build up at the base of the tree, blackening the soil around the base. The largest colonies can produce large fungal mats at the base of tree. Increased activity of wasps, hornets, bees, and ants can be seen feeding on honeydew secretions and at tree wounds. For more information: <http://pest.ceris.purdue.edu/pest.php?code=IRANADA>

Photo Credits:

Silver Y Moth: Adult: Julieta Brambila, USDA APHIS PPQ, Bugwood.org. Larva: Charles Olsen, USDA APHIS PPQ, Bugwood.org.

Honeydew Moth: Southsea, Hampshire, 11/01/1994, In coll. JRL, Bred from larva in pomegranate 11/9/93. , John Langmaid (c) Mike Wall 2009.

Light Brown Apple Moth: adult: Department of Primary Industries and Water, Tasmania Archive, Bugwood.org. Larva: Todd M. Gilligan and Marc E. Epstein, TortAI: Tortricids of Agricultural Importance, USDA APHIS ITP, Bugwood.org

European Grape Berry Moth: Todd M. Gilligan and Marc E. Epstein, TortAI: Tortricids of Agricultural Importance, USDA APHIS ITP, Bugwood.org

Grapevine Moth: Adult: Mark Dreiling, Retired, Bugwood.org. Larva: Todd M. Gilligan and Marc E. Epstein, TortAI: Tortricids of Agricultural Importance, USDA APHIS ITP, Bugwood.org

Spotted wing drosophila: Gevork Arakelian (Los Angeles County Agricultural Commissioner/Weights & Measures Department)

False codling moth: Marja van der Straten (NVWA Plant Protection Service)

Spotted Lanternfly: Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org